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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,073	06/07/2002	Theodorus Lambertus Hoeks	08CS5682-1	3895

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EXAMINER

WOODWARD, ANA LUCRECIA

ART UNIT	PAPER NUMBER
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1711

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/064,073

Applicant(s)

HOEKS ET AL.

Examiner

Ana L. Woodward

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 16, 2006
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4, 6, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-13 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of potassium diphenylsulfon-3-sulfonate in the reply filed on April 25, 2006 is acknowledged.
2. Claims 4, 6, 14 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 25, 2006.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1, 2, 8-12, 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,289,685 (Druschke et al) as per reasons of record.

Druschke et al disclose a process for producing flame resistant polycarbonate compositions comprising:

compounding an aqueous solution of a flame retardant salt with a polycarbonate/organic solvent system using high-pressure homogenizers, e.g., twin-screw extruder (column 6, line 9) and similar mixing devices. Thorough mixing achieves uniform distribution of the flameproofing salts. The salt-containing polycarbonate is isolated from the resulting emulsions by known processes, for example via a devolatilization extruder, and solvent and water is removed. The flame retardant salts include alkali, alkaline and transition metal salts of organic and inorganic acids. These salts can be incorporated in amount of 0.001 to 5% by weight, based

Art Unit: 1711

on the total weight of polycarbonate and flame retardant salts. Table II evinces specific flame retardant salts recited in the present claims. The compositions can be processed into films by customary methods such as by extrusion (column 4, lines 59-63). It is noted that patentees recognize that the addition of the flame retardant salts in solution form, as opposed to solid form, results in a flame resistant polycarbonate composition with superior properties, e.g., optical properties (column 1, lines 44-60).

In essence, the disclosure of the reference differs from the above-rejected claims in not expressly exemplifying the production of a sheet. It would have been obvious to one having ordinary skill in the art to have produced a fire resistant film or sheet by extrusion of patentees' composition with the reasonable expectation of success.

As to the applicants' requirement for reduction of surface reductions, this language, in effect, simply states the result of compounding the materials. While the reference may not expressly disclose said effect, it does recognize that superior optical properties are achieved by the addition of the flame retardant salts in solution form, as opposed to solid form. Accordingly, it is maintained that a reduction of surface inclusions would flow naturally from following the suggestion of the prior art. Its discovery by applicants is tantamount only to finding a property of an old composition and thus cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Druschke et al's compounding would appear to necessarily involve the application of shear, given that the high-pressure homogenizers, e.g., twin-screw extruder (column 6, line 9), and similar mixing devices employed achieve thorough mixing and uniform distribution of the

Art Unit: 1711

flameproofing salts. It is noted that the same or similar devices are employed in the compounding of applicants' materials (page 10 and examples).

As to claim 19, conventional devolatilization extruders known to the art normally remove water through vents under vacuum. Accordingly, it would have been obvious to one having ordinary skill in the art to have employed similar devolatilization extruders for the removal of water in the process of Druschke et al

5. Claims 1-3, 5, 7-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,113,695 (Mark) as per reasons of record.

Mark discloses a process for producing non-opaque flame resistant polycarbonate compositions having good optical properties comprising:

compounding an aqueous solution of a flame retardant salt with a polycarbonate by tumbling the ingredients together in a tumbler followed by extrusion (Tables I and II). The flame retardant salts include alkali and alkaline metal salts of organic acids. These salts can be incorporated in amount of 0.001 to about 2.0 parts, per hundred parts of polycarbonate. Tables I and II evince specific flame retardant salts recited in the present claims. The compositions can be processed into sheets (column 2, lines 3-9) having clarity, light transmission and low haze. It is noted that patentees recognize that the addition of the flame retardant salts in solution form, as opposed to solid form, results in a flame resistant polycarbonate composition with superior optical properties (column 2, lines 10-14).

In essence, the disclosure of the reference differs from the above-rejected claims in not expressly exemplifying the production of a sheet. It would have been obvious to one having

Art Unit: 1711

ordinary skill in the art to have produced a fire resistant film or sheet by extrusion of patentees' composition with the reasonable expectation of success.

As to the applicants' requirement for reduction of surface reductions, this language, in effect, simply states the result of compounding the materials. While the reference may not expressly disclose said effect, it does recognize that superior optical properties are achieved by the addition of the flame retardant salts in solution form, as opposed to solid form. Accordingly, it is maintained that a reduction of surface inclusions would flow naturally from following the suggestion of the prior art. Its discovery by applicants is tantamount only to finding a property of an old composition and thus cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Ohiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Mark's compounding would appear to necessarily involve the application of shear, given that extruders and similar mixing devices are used to achieve the non-opaque compositions. It is noted that the same or similar devices are employed in the compounding of applicants' materials (page 10 and examples).

As to claim 19, conventional devolatilization extruders known to the art normally remove water through vents under vacuum. Accordingly, it would have been obvious to one having ordinary skill in the art to have employed similar devolatilization extruders for the removal of water in the process of Mark.

6. Claims 1, 8-12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,600,742 (Higgins) as per reasons of record.

Higgins discloses flame retardant polycarbonate compositions comprising a minor amount (preferably up to about 10% by weight) of at least one metal sulfonate salt. Suitable

Art Unit: 1711

preparatory processes include admixing the polycarbonate with the metal salt in the form of an aqueous solution by means of tumblers, mixers, etc (examples). The compositions can be processed into films by extrusion (column 9, lines 32-35).

In essence, the disclosure of the reference differs from the above-rejected claims in not expressly exemplifying the production of a sheet. It would have been obvious to one having ordinary skill in the art to have produced a fire resistant film or sheet by extrusion of patentees' composition with the reasonable expectation of success. The fact that applicant has recognized another advantage, i.e., reduction of surface inclusions, which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Given that the use of extruders apply shear to applicants' components during compounding (page 10 specification), it would be expected that the use of the same or similar devices would similarly provide shear during the compounding step in the reference.

As to claim 19, conventional devolatilization extruders known to the art normally remove water through vents under vacuum. Accordingly, it would have been obvious to one having ordinary skill in the art to have employed similar devolatilization extruders for the removal of water in the process of Higgins.

7. Claims 3, 5, 7, 11, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,289,685 (Druschke et al) in combination with U.S. 4,113,695 (Mark), both described hereinabove, as per reasons of record.

Art Unit: 1711

8. Claims 11, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,600,742 (Higgins) in combination with U.S. 4,113,695 (Mark), both described hereinabove, as per reasons of record.

Response to Argument

9. Applicant's amendments filed October 16, 2006 have been fully considered but are not persuasive.

It is maintained that the application of shear during compounding would necessarily occur during the compounding of the materials in the processes of the cited prior art. In Druschke et al, high-pressure homogenizers, e.g., twin-screw extruder (column 6, line 9), and similar mixing devices are employed to achieve thorough mixing and uniform distribution of the flameproofing salts. In Mark's compounding, the extruders and similar mixing devices are used to achieve non-opaque compositions. It is noted that the same or similar devices are employed by all the cited references^{as} are used in the compounding of applicants' materials (page 10 and examples).

As to the applicants' requirement for reduction of surface reductions, this language, in effect, simply states the result of compounding the materials. While the reference may not expressly disclose said effect, it does recognize that superior optical properties are achieved by the addition of the flame retardant salts in solution form, as opposed to solid form. Accordingly, it is maintained that a reduction of surface inclusions would flow naturally from following the suggestion of the prior art. Its discovery by applicants is tantamount only to finding a property of an old composition and thus cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

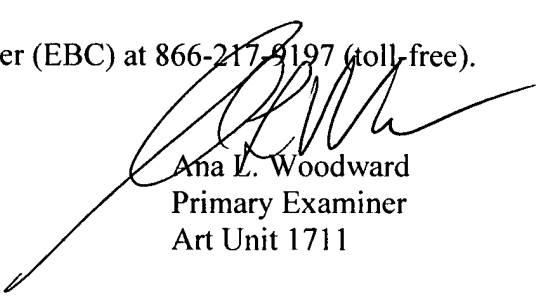
Art Unit: 1711

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ana L. Woodward
Primary Examiner
Art Unit 1711